

# 1 m Quadrats

## Access table design structure for -1mQuadrat:

Field Name	Data Type
ProgramCode	Text
EventNumber	Text
IslandCode	Text
SiteCode	Text
Species	Number
Quadrat	Number
CountA	Number
CountB	Number

## Sample size and database anomalies

The number of quadrats sampled per year has changed several times with 30 sampled in 1982, 40 sampled in 1983 and 1984, 20 sampled from 1985-1995, and 12 sampled from 1996 to present. Each quadrat for 1982, 1983, and 1984 represents 1m<sup>2</sup>. From 1985 to present each quadrat represents 2m<sup>2</sup> (**Tablexxx**).

## CountA and CountB

From 1982-1984 each 1m<sup>2</sup> quadrat was entered into the data base under CountA, and CountB is null (see below).

From 1985-present 2m<sup>2</sup> quadrats were sampled. However, from 1985-1994 the two divers (sampling adjacent 1m<sup>2</sup> quadrats) added their Counts together before entering the data. Hence, from 1985-1994 data entered under CountA represents 2m<sup>2</sup>, and CountB is null (see below).

From 1995-present, the data for each diver is entered under CountA and CountB, so that the addition of CountA and CountB represents 2m<sup>2</sup> (see below).

## Number and size of 1m Quadrats:

Year	# of quadrats sampled	Quadrat size	CountA	CountB
1982	30	1m <sup>2</sup>	yes	null
1983-1984	40	1m <sup>2</sup>	yes	null
1985-1994	20	2m <sup>2</sup>	yes	null
1995	20	2m <sup>2</sup>	yes	yes
1996-present	12	2m <sup>2</sup>	yes	yes

transect (for the band transect data) were summarized and entered in one count field labeled “count”. With the creation of Access, CountA, CountB, CountC, CountD were created for adjacent quadrats or transects, so that summarization of the data could be conducted by computer, and not by hand. Further explanation of how the data is collected and entered is described in the Sampling Method

Protocol and Data Entry sections of this handbook.

## Quadrat Placement

Prior to 1996 random points selected for placement of the quadrats were stratified random. After 1996, the random points are systematic with a random starting point.

## Organisms Sampled Information

Sampling of adult and juvenile *Macrocystis pyrifera* began in 1983.

Prior to 1996, adult and juvenile *Laminaria farlowii*, *Pterygophora californica*, and *Eisenia arborea* were not distinguished and were grouped into *L. farlowii* all, *P. californica* all, and *E. arborea* all categories. Starting in 1996, adult and juvenile categories for each of these species were added.

In 1996, the categories for *M. pyrifera* all, *L. farlowii* all, *P. californica* all, and *e. arborea* all were discontinued. However, this information can still be calculated by combining the adult and juvenile categories.

*Cypraea spadicea* were added to quadrats in 1983, except at Admiral's Reef, Anacapa Island, and Rodes Reef, Santa Rosa Island where they were added in 1982.

The fish, *Lythrypnus dalli*, *Coryphopterus nicholsii*, and *Alloclinus holderi* were added to quadrats in 1985.

Coronado sea urchins, *Centrostephanus coronatus*, were added to quadrats in 1996.

## Organisms sampled with 1m quadrats.

Species Name	Species	Comments
<i>Macrocystis pyrifera</i> Adult (>1m)	2002.00	Sampling began in 1983
<i>Macrocystis pyrifera</i> Juvenile (<1m)	2002.50	Sampling began in 1983
<i>Macrocystis pyrifera</i> All	2010.00	Discontinued in 1996 (can be calculated by adding Ad.+Juv.)
<i>Eisenia arborea</i> adult	2004.00	Sampling began in 1996
<i>Eisenia arborea</i> juvenile	2004.50	Sampling began in 1996
<i>Eisenia arborea</i> All	2012.00	Discontinued in 1996 (can be calculated by adding Ad.+Juv.)
<i>Pterygophora californica</i> adult	2005.00	Sampling began in 1996
<i>Pterygophora californica</i> juvenile	2005.50	Sampling began in 1996
<i>Pterygophora californica</i> All	2013.00	Discontinued in 1996 (can be calculated by adding Ad.+Juv.)
<i>Laminaria farlowii</i> adult	2006.00	Sampling began in 1996
<i>Laminaria farlowii</i> juvenile	2006.50	Sampling began in 1996
<i>Laminaria farlowii</i> All	2014.00	Discontinued in 1996 (can be calculated by adding Ad.+Juv.)
<i>Cypraea spadicea</i>	9005.00	Sampling began in 1983 (Except AR,RR began in 1982)
<i>Kelletia kelletii</i>	9006.00	Sampling conducted sporadically
<i>Lithopoma (Astraea) undosa</i>	9007.00	Continuously sampled
<i>Lithopoma (Astraea) gibberosa</i>	9008.00	Began sampling 1985, sporadic sampling at select sites
<i>Crassedoma (Hinnites) giganteus</i>	9010.00	Sporadically sampled when densities are high
<i>Asterina (Patiria) miniata</i>	11001.00	Continuously sampled
<i>Pisaster giganteus</i>	11002.00	Continuously sampled
<i>Lytechinus anamesus</i>	11004.00	Sporadically sampled when densities are high
<i>Strongylocentrotus franciscanus</i>	11005.00	Continuously sampled

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<i>Strongylocentrotus purpuratus</i>	11006.00	Continuously sampled
<i>Parastichopus parvimensis</i>	11007.00	Continuously sampled
<i>Centrostephanus coronatus</i>	11009.00	Sampling began in 1996
<i>Styela montereyensis</i>	12002.00	Continuously sampled
<i>Lythrypnus dalli</i>	14025.00	Sampling began in 1985
<i>Coryphopterus nicholsii</i>	14026.00	Sampling began in 1985
<i>Alloclinus holderi</i>	14027.00	Sampling began in 1985

## Sites Sampled

Quadrat data are available for 13 kelp forest monitoring sites from 1982-present, one site from 1983-present, and two sites from 1986-present (see below).

**The years 1m quadrat data is available for the kelp forest monitoring sites.**

Island Name	Site Name	Quadrat data available
Anacapa	Admiral's Reef	1982 - present
Anacapa	Cathedral Cove	1982 - present
Anacapa	Landing Cove	1982 - present
Santa Barbara	Arch Point	1982 - present
Santa Barbara	Cat Canyon	1986 - present
Santa Barbara	SE Sea Lion Rookery	1982 - present
Santa Cruz	Fry's Harbor	1982 - present
Santa Cruz	Gull Island South	1982 - present
Santa Cruz	Pelican Bay	1982 - present
Santa Cruz	Scorpion Anchorage	1982 - present
Santa Cruz	Yellow Banks	1986 - present
San Miguel	Hare Rock	1982 - present
San Miguel	Wyckoff Ledge	1982 - present
Santa Rosa	Johnson's Lee North	1982 - present
Santa Rosa	Johnson's Lee South	1982 - present
Santa Rosa	Rodes Reef	1983 - present